



**CD 8.5.1 DISCIPLINE-BASED CURRICULUM  
FOR THE UNIVERSITY STUDIES**

<b>Version:</b>	<b>9</b>
<b>Date:</b>	<b>8.09.2021</b>
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**FACULTY OF MEDICINE NO. 1**

**STUDY PROGRAMME "0912.1 MEDICINE"**

**DEPARTMENT OF GENERAL SURGERY AND SEMIOLOGY NO. 3,  
DEPARTMENT OF SURGERY NO. 1 "NICOLAE ANESTIADI"**

APPROVED

at the meeting of Quality Assurance and Curricular Evaluation  
in Medicine Committee

Minutes no. 1 of 16.09.21

Chairperson, hab. dr. in med. sc., univ. prof.

Suman Sergiu

(signature)

APPROVED

at the meeting of the Council of the Faculty of Medicine  
no.1

Minutes no. 1 of 27.09.21

Dean of the Faculty, hab. dr. in med. sc., univ. prof.

Plăcintă Gheorghe

(signature)

APPROVED

at the meeting of the Department of Surgery no. 1 "Nicolae Anestiadi"

Minutes no. 2 of 15.09.2021

Head of Department, hab. dr. in med. sc., univ. prof.

Rojnoveanu Gheorghe

(signature)

**CURRICULUM**

**CLINICAL INTERNSHIP IN SURGERY**

**Integrated studies / Cycle I, Bachelor's degree**

Course type: **Compulsory subject**

The curriculum was co-authored by the following team:

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Chisinau, 2021



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### I. PRELIMINARY REMARKS

#### Overview:

This clinical internship presents a follow-up of the *General Surgery and Semiology* and *Surgical Diseases* modules. Having acquired a range of theoretical knowledge in surgery, the students will gain practical skills in providing patients' surgical care during the clinical internship. The process of supervising surgical patients is complex, and is run by the multidisciplinary team of the surgical service (doctors, nurses and nurses' aides). While performing their clinical internship, the students will basically work as attending doctors in the surgery departments, personally getting involved in the provision of healthcare to inpatients, becoming, thus, an integral part of the staff of the respective department. Furthermore, the student will learn the role and attributions of each member of the staff, will contribute to the medical facility and team's work, will acquire the core practical skills of surgical and patient care, which are essential for the successful treatment and cure.

- The mission (goal) of the curriculum in professional training:

The curriculum is intended to be used by the students of the Faculty of Medicine and shall serve as a guide for the clinical internship in surgery. Its aim is to familiarise the medical students with the teamwork in surgery departments, by considering patients' personal and existential values, and by observing the moral and ethical norms. Another objective of the professional training is the development of the skills necessary to exercise the function of attending doctor' assistant, as well as learning the specific professional skills and responsibilities of each team member, the interprofessional cooperation in the joint activity of the surgery department, and the assertive and non-discriminatory communication with colleagues, patients, relatives and the community.

- Language (s) of instruction: Romanian, English, Russian
- Beneficiaries: fourth-year students, Faculty of Medicine

### II. DISCIPLINE MANAGEMENT

Discipline Code			
Name of the discipline		<b>Specialised clinical internship</b>	
Discipline Coordinator		<b>Rojnoveanu Gheorghe, hab. dr. in med. sc., univ. prof.</b> <b>Guțu Evghenii, hab. dr. in med. sc., univ. prof.</b>	
Year	<b>IV</b>	Semester VIII	<b>Summer time</b>
Total number of hours, including:			<b>150</b>
Evaluation form	<b>E</b>	Number of credits	<b>5</b>

### III. TRAINING OBJECTIVES OF THE CLINICAL INTERNSHIP



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*At the end of the clinical internship, the student will be able:*

❖ ***at the level of knowledge and understanding:***

- to know the role of the surgeon in assessing and properly addressing the health needs of surgical patients;
- to identify the specific elements of communication in an interdisciplinary team;
- to understand the roles and working environments of an interdisciplinary team;
- to know the common causes of conflicts and miscommunication in the context of interprofessional cooperation;
- to know the measures of infection prevention in the surgical inpatient units;
- to know the healthcare techniques to ensure that the needs of healthy and sick persons are covered;
- to identify the stages of treatment and care in the case of a surgical patient;
- to describe the key elements of each stage in the process of healthcare provision to a surgical patient;
- to interpret the data of paraclinical investigations (imaging, endoscopic, and laboratory) used to examine surgical patients;
- to know the equipment and materials needed for interventions and patient care;
- to know the stages of patient's preparation for investigations and surgeries;
- to monitor patient's pre- and postoperative evolution.

❖ ***at application level:***

- to analyse the functions, role of the members involved in the activity of the surgical team (head of department, attending doctors, anaesthesiologists, nurses, and nurses' aides);
- to co-work with department staff to maintain an atmosphere that fosters mutual respect and values;
- to communicate effectively and responsibly with patients, families, surgical team members, and medical staff;
- to apply the practical healthcare skills and techniques to surgical patients;
- to apply measures to prevent in-hospital nosocomial infections;
- to establish, under the monitoring of clinical internship supervisors (head of department, attending doctors) patients' diagnosis and perform interventions in line with professional standards by providing patients with psychological support and appropriate information;
- to plan the implementation of preventive, educational, relational and therapeutic measures;
- to develop an individualised examination and treatment plan for the surgical patient based on vital needs and parameters;
- to be able to draft the medical documentation (clinical observation form, extracts etc.) of the surgical inpatient.

❖ ***at the integration level:***

- to interact effectively with specialists from other inpatient services;
- to adopt a team-based approach to health promotion, prevention and maintenance and treatment of surgical conditions;
- to provide the necessary care to the surgical patient according to their needs, ensuring that these are provided in a safe, timely, efficient and equitable manner;
- to evaluate the outcomes of the treatment.



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### IV. PREREQUISITES AND REQUIREMENTS

- **Precondition:** The clinical internship in surgery is based on the topics approached by the disciplines *General Surgery and Semiology* (3rd year) and *Surgical Diseases* (4th year), which are included in the curriculum of the respective disciplines;
- Knowledge of the language of instruction;
- ICT skills (use of the Internet, document processing, use of electronic tables and presentations, use of graphic software);
- Declarative and non-discriminatory communication skills and teamwork;
- Qualities – tolerance, initiative, autonomy and empathy.



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**V. TOPICS AND ORIENTATIVE DISTRIBUTION OF HOURS**

Serial No.	TOPIC	Number of hours	
		Direct contact	Individual
1.	Teamwork and the basics of communication	6	
2.	Communication as a tool in the treatment and care of the surgical patient	6	
3.	The activity of the surgical team. Techniques to increase the efficiency of team's communication and work (communication between doctors, doctors and nurses, doctors and nurses' aides and doctors and patients, etc.). Subordination in the surgery department	6	2
4.	The role, functions and competencies of the attending doctor's assistant of the surgery department in providing healthcare	6	
5.	Surgical patient treatment process: data collection (history)	7	2
6.	Surgical patient treatment process: objective physical examination of the patient (general and local status)	7	2
7.	Surgical patient treatment process: development of the surgical patient's paraclinical diagnostic algorithm	7	2
8.	Surgical patient treatment process: formulation of the clinical observation sheet, presumptive diagnosis	7	2
9.	The surgical patient treatment process: preparation for emergency and scheduled investigations	7	2
10.	Surgical patient treatment process: differential diagnosis, data analysis and interpretation, clinical diagnosis	7	2
11.	Surgical patient treatment process: development of treatment tactics (emergency and scheduled)	7	2
12.	Surgical patient treatment process: daily clinical and paraclinical monitoring of the surgical patient in the pre- and postoperative periods (care of wounds, drains, probes, etc.)	7	2
13.	Surgical patient treatment process: evaluation of care (treatment outcomes)	7	2
14.	Surgical patient treatment process: discharge and formulation of the observation sheet, of the inpatient record with recommendations for the family doctor and outpatient consultants, prophylaxis of postoperative complications	7	2
15.	Work in the emergency department: examination of patients upon hospitalisation (emergency and scheduled), completion of hospitalisation documents (observation sheet, informed consent, etc.)	7	2
16.	Activity in the treatment room (dressings, manipulations while providing care to the patients in the ward, etc.)	7	2
17.	Activity in the operating theatre: assistance during the surgery, responsible in charge with the instruments used in the surgical interventions (mastering the	6	2



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Serial No.	TOPIC	Number of hours	
		Direct contact	Individual
	techniques of surgical hand and operating area preparation, knowledge of the materials necessary for the intervention: threads, instruments, bandages, etc.)		
18.	Activity in the post-anaesthesia care unit: monitoring the patient after surgery – checking post-operative vitals (pulse rate, blood pressure, respiratory rate, urine output, level of consciousness), pulse oximetry, postoperative medication, etc.	6	2
<b>Hours</b>		<b>120</b>	<b>30</b>
<b>Total</b>		<b>150</b>	

**VI. PRACTICES ACQUIRED AT THE END OF THE COURSE**

**Practical skills (general part):**

- a. Application of the triangular bandage for the head
- b. Application of the triangular bandage for shoulder
- c. Application of the triangular bandage for chest
- d. Application of the triangular bandage of the hip joint
- e. Application of the triangular bandage on the foot
- f. Application of the triangular bandage on the hand
- g. Application of the Hippocrates cap-type bandage
- h. Application of the nose bandage
- i. Application of the chin bandage
- j. Application of the cravat bandage to the elbow joint
- k. Application of the cravat bandage to the knee joint
- l. Application of the cravat bandage to the axillary region
- m. Application of the rolling dressing on the wrist joint
- n. Application of the tubular dressing to the first finger of the hand
- o. Application of the tubular dressing to a finger
- p. Application of the tubular dressing to all fingers
- q. Application of the rolling dressing on the talocrural joint
- r. Application of the rolling dressing on the leg
- s. Application of the rolling dressing on the knee joint
- t. Application of convergent dressing on the elbow joint
- u. Application of divergent dressing on the elbow joint
- v. Demonstration of upper limb immobilization using the Kramer splint
- w. Demonstration of calf immobilization using the Kramer splint
- x. Application of the haemostatic tourniquet to the upper/lower limb
- y. Hand preparation before surgery
- z. Demonstration of how to wear sterile gown and gloves



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- aa. Operating area preparation and isolation
- bb. Selection of tissue sectioning instruments
- cc. Selection of instruments for haemostasis
- dd. Selection of wound retractors
- ee. Selection of soft tissue suturing instruments
- ff. Demonstration of proper handling of the scalpel, tweezers; of closure and opening of surgical forceps
- gg. Selection of absorbable and non-absorbable surgical threads
- hh. Selection of the necessary instruments and application of simple skin sutures
- ii. Selection of the required instruments and application of Blair-Donati skin sutures
- jj. Selection of required instruments and applying U-type skin sutures
- kk. Removal of sutures from the wound
- ll. Administration of subcutaneous, intramuscular and intravenous injections on a moulage
- mm. Performance of blood typing
- nn. Insertion of urinary catheters on a moulage
- oo. Selection of the necessary instruments to conduct novocaine blockades (Vishnevskii method, according to Oberst-Lukashevich, retromammary, etc.)
- pp. Selection of the necessary instruments and application of the nasogastric tube
- qq. Selection of the instruments required for enema administration
- rr. Selection of the instruments used to stimulate bowel movement (hypertonicity, Ognev's enema, etc.)
- ss. Selection of the instruments necessary for the care and removal of postoperative drains from the abdomen
- tt. Selection of the instruments necessary for the care of patients with enterostomy, colostomy
- uu. Oxygen saturation monitoring (pulse oximetry).

**Practical skills (special part):**

**Acute appendicitis**

1. Indication of points of maximum pain in acute appendicitis
2. Examination of the patient with acute appendicitis, displaying the following clinical signs: Dieulafoy, Rovsing, Sitcovsky, Bartomier-Mihelson, Cope, Blumberg, Mandel-Razdolsky.

**Abdominal wall hernias**

1. Indication of weak points and areas of the abdominal wall
2. Differentiation of signs of reducible, non-reducible and strangulated hernias
3. List the criteria for differentiating direct and indirect inguinal hernias
4. Application of the postoperative suspension-like compression bandage after inguinal herniotomy

**Intestinal obstruction**

1. Assessment of the level of intestinal obstruction according to clinical data
2. Commenting on radiology clichés (panoramic, Schwartz's test, irrigoscopy) in intestinal obstruction.
3. Enumeration of the signs of differentiation of the upper and lower intestinal obstruction on the radiological image
4. Indication (in writing) of the preoperative preparation of a patient with acute intestinal obstruction



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### Ulcerative disease

1. Radiogram description of a patient with a perforated ulcer
2. Selection of the instruments needed to perform pneumogastrography
3. Demonstration of the disappearance of liver dullness when suspecting a perforated gastroduodenal ulcer
4. Determination of the degree of digestive haemorrhage according to clinical and laboratory data
5. Determination of gastroduodenal ulcer haemorrhagic activity by clinical, endoscopic and laboratory data
6. Prescription of drug treatment to the patient with ulcerative haemorrhage
7. Detection of Kussmaul sign and Patkin's triad in ulcerative stenosis
8. Description of the barium radiology cliché of the digestive tract of a patient with pyloric stenosis
9. Selection of laboratory tests characteristic of Darrow's syndrome in decompensated pyloric stenosis
10. Selecting the necessary instruments and performing gastric lavage after gastrosurgery.
11. Selecting the required instruments to install the Sengstaken-Blakemore tube to manage the haemorrhage due to oesophageal varices.

### Surgical pathology of the gallbladder and bile ducts

1. Examination of the patient with acute cholecystitis, displaying Murphy, Ortner, Mussie-Gheorghievski, Blumberg's signs.
2. Interpretation of general and biochemical blood tests in patients with acute cholecystitis, chronic choledocholithiasis, mechanical jaundice of various aetiologies.
3. Commenting on radiology clichés (fistulocholangiography, transcutaneous, transhepatic, cholecystocholangiography, fistulography, ERCP).
4. Commenting ultrasonographic images, computed tomography in case of gallstones disease.
5. Prescribing preoperative treatment to the patient with acute cholecystitis
6. Biliary drain care (cholecystostomy, common bile duct drainage). Debriefing on criteria and terms for removal of biliary drainage

### Acute pancreatitis

1. Examination of the patient with acute pancreatitis, showing Bereznigovsky, Gray-Turner, Culen, Bonde, Gobie, Körte, Vosresensky, Mayo-Robson's signs
2. Interpretation of blood, urine, peritoneal exudate, pleural fluid tests in patients with acute pancreatitis
3. Interpretation of radiological signs of the chest and abdomen in acute pancreatitis
4. Interpretation of ultrasonography and computer tomography results in acute and chronic pancreatitis
5. Prescription of treatment to a patient with acute pancreatitis at the onset of the severe form of disease.

### Abdominal trauma

1. Examination of the patient with blunt abdominal injury and suspicion of injury to the parenchymatous organs (muscular guarding, free fluid (displaceable dullness), exclusion of pneumoperitoneum, Blumberg's sign, etc.).
2. Examination of the patient with blunt abdominal trauma and suspicion of damage to the cavitory organs (presence of muscular guarding, pneumoperitoneum, free fluid, Blumberg's sign, etc.).
3. Determination of the degree of internal haemorrhage according to clinical data
4. Determination of the degree of internal haemorrhage according to laboratory data
5. Interpretation of the presence of pneumoperitoneum on the plain x-ray film of the abdomen in orthostatism and on the laterogram in the patient with closed abdominal trauma
6. Selection of the equipment required for paracentesis (diagnostic peritoneal lavage). Enumeration of the criteria for positive findings in paracentesis.





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**Chest trauma**

1. Examination of the patient with closed trauma and suspicion of damage to the organs of the thorax (presence of rib fractures, tracheal deviation, pneumothorax, haemothorax, flail chest, intercostal retraction, distended jugular veins).
2. Examination of the patient with chest trauma and description of the semiology (inspection, auscultation, percussion) in relation to various lesions (pneumothorax, haemothorax).
3. Interpretation of the presence of haemo/pneumothorax on the x-ray films of the chest in the patient with chest trauma.
4. Description and application of occlusive dressing in case of open pneumothorax.
5. Identification of signs in case of tension pneumothorax (with valve). Description of the stages and performance of needle decompression.
6. Selection of the necessary equipment for pleural puncture. Anatomical sites. Describe the stages and perform pleural puncture on the moulage in case of hydrothorax.
7. Selection of the equipment required for thoracentesis. Anatomical sites. Description of the stages and performance of the thoracentesis on a moulage.
8. Enumeration of indications/criteria for thoracotomy.

**Peritonitis**

1. Performing abdominal examination of the patient with peritonitis (muscular guarding, free fluid in the abdominal cavity, Blumberg's sign).
2. Prescription of the methods of stimulating the intestine of the patient with peritonitis in the postoperative period.
3. Prescription of antibacterial and infusion treatment to the patient with generalised peritonitis.
4. Interpretation of radiological signs of the abdomen in generalised peritonitis.
5. Interpretation of radiological signs of the abdomen in localised circumscribed peritonitis (abscesses).
6. Commenting on imaging data (USG, radiology, CT) of intra-abdominal abscesses.
7. Interpretation of blood tests, urine, peritoneal exudate in patients with generalised peritonitis.

**Surgical pathology of the venous system**

1. Examination of a patient with varicose veins, demonstrating functional tests: Brodie-Trendelenburg-Troianov test, Delbet test, Pertes test, Pratt-I, Pratt-II tests, Sheinis test (the three tourniquets test).
2. Applying the compressive elastic bandage on the lower limbs in patients with varicose veins.
3. Interpretation of coagulogram results.
4. Interpretation of Duplex scan results of lower limb veins.
5. Examination of a patient with acute thrombophlebitis of the lower limb veins, displaying characteristic signs.
6. Selection of devices required for temporary and permanent haemostasis in case of haemorrhage from ruptured varicose vein.
7. Prescription of the treatment in thrombophlebitis of the superficial and deep veins of the lower limbs.
8. Selection of prevention measures for thromboembolic complications in surgical patients.



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**VII. REFERENCE OBJECTIVES AND UNITS OF CONTENT**

Objectives	Units of content
<b>Topic 1.</b> Teamwork and the basics of communication.	
<ul style="list-style-type: none"><li>to know the role of the surgeon and that of other professions in order to assess and adequately address the health needs of surgical patients.</li></ul>	Interprofessional education. Interprofessional collaboration in the medical practice. Interprofessional teamwork. Team-based interprofessional care. Interprofessional skills in health.
<b>Topic 2.</b> Communication as a tool in the treatment and care of the surgical patient.	
<ul style="list-style-type: none"><li>to establish a good communication with the patient and their family in order to build an effective relationship between doctor and patient;</li><li>to demonstrate verbal and nonverbal communication skills required in clinical consultation and monitoring;</li><li>to demonstrate assertive and non-discriminatory communication with the members of the surgical team.</li></ul>	Communication as a tool in collecting medical information, establishing a partnership and trust between the doctor and patient. Goals of doctor-patient communication. Types of communication: verbal, nonverbal. Declarative and non-discriminatory communication. Communication among the interprofessional team members. Stages of listening. The main elements of a communication process. Emitter and receiver's behaviour. Ethical aspects when communicating with the patient. Communication barriers.
<b>Topic 3.</b> The activity of the surgical team. Techniques to increase the efficiency of team's communication and work (communication between doctors, doctors and nurses, doctors and nurses' aides and doctors and patients, etc.). Subordination in the surgery department.	
<ul style="list-style-type: none"><li>to understand the roles and the working environments of an interdisciplinary team;</li><li>to know the common causes of conflicts and miscommunication in interprofessional collaboration;</li><li>to analyse the functions, the role of different actors in the surgical team;</li><li>to work with people from other professions to have a climate of mutual respect and shared values;</li></ul>	The role of the team in the activity of the surgery department. Types of teams, communication techniques and interaction with team members. Common causes of conflict. Conflict resolution methods. The activity in the surgical team in providing integrated and patient-centred services. Indicators to assess the effective functioning of the interprofessional team and their impact on the effective delivery of surgical care, using a case-based approach.



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Objectives	Units of content
<ul style="list-style-type: none"> <li>to recognise the impact of teamwork on the patient-centred practice.</li> </ul>	
<b>Topic 4.</b> The role, functions and competencies of the attending doctor's assistant of the surgery department in providing healthcare	
<ul style="list-style-type: none"> <li>to understand the role and functions of the attending doctor within the interdisciplinary team;</li> <li>to know and to acquire the competencies of the attending doctor's assistant from the surgery department;</li> <li>to know the duties and hierarchical place of each member of the surgical team.</li> </ul>	The role of the attending doctor's assistant from the surgery department. The level of competencies of the attending doctor in the surgical department. Knowledge of the functions and hierarchy of the members of the surgical team. Effective communication and cooperation.
<b>Topic 5.</b> Surgical patient treatment process: data collection (history)	
<ul style="list-style-type: none"> <li>to understand and respect the logical sequence of the subjective examination of the surgical patient;</li> <li>to collect correctly the patient's history data;</li> <li>to use the interview and observation to facilitate the interview.</li> </ul>	Distinctive landmarks of the subjective examination of the surgical patient. Correct and systemic collection of relevant data from the patient's history.
<b>Topic 6.</b> Surgical patient treatment process: objective physical examination of the patient (general and local status)	
<ul style="list-style-type: none"> <li>to understand and respect the logical sequence of the objective examination of the surgical patient;</li> <li>to conduct the logical general and local status examination of the surgical patient.</li> </ul>	The role of observing the sequence of methods of objective systemic examination of the patient: visual examination, palpation, percussion, auscultation of organ systems.
<b>Topic 7.</b> Surgical patient treatment process: development of the surgical patient's paraclinical diagnostic algorithm.	
<ul style="list-style-type: none"> <li>to understand and follow the stages of paraclinical diagnosis of the surgical patient;</li> </ul>	Paraclinical diagnostic stages in emergencies, considering patient's vital parameters and in the case of an elective patient, according to the capabilities of the medical facility providing the services.



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Objectives	Units of content
<ul style="list-style-type: none"> <li>to take into account the needs, but also the institutional possibilities.</li> </ul>	
<b>Topic 8.</b> Surgical patient treatment process: formulation of the clinical observation sheet, presumptive Diagnosis	
<ul style="list-style-type: none"> <li>to understand and comply with the requirements related to the completion of the clinical observation form.</li> </ul>	Compliance with the requirements for drafting medical documents, argumentation of the presumptive diagnosis.
<b>Topic 9.</b> Surgical patient treatment process: preparation for emergency and scheduled Investigations	
<ul style="list-style-type: none"> <li>to know the indications for investigations in case of an emergency or scheduled patient;</li> <li>To know the stages of preparation for investigations;</li> <li>to justify the indications for each investigation;</li> <li>to interpret the results of endoscopic, imaging and laboratory investigations.</li> </ul>	Emergency investigations, the stages of preparation for investigation. Scheduled investigations, the stages of preparation for investigation. Imaging methods (USG, CT, radiological) Endoscopic examination methods (EGD, CS) Radiological methods
<b>Topic 10.</b> Surgical patient treatment process: differential diagnosis, data analysis and interpretation, clinical diagnosis	
<ul style="list-style-type: none"> <li>to examine and classify data collected from the patient;</li> <li>to distinguish between manifestations of independence and dependence;</li> <li>to establish the presumptive diagnosis;</li> <li>to perform differential diagnosis of surgical pathologies.</li> </ul>	Argumentation of the presumptive diagnosis. Establishment of the differential diagnosis. Data analysis and interpretation. Differentiating between manifestations of independence and manifestations of dependence. Establishment of the clinical diagnosis.
<b>Topic 11.</b> Surgical patient treatment process: development of treatment tactics (emergency and elective)	



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Objectives	Units of content
<ul style="list-style-type: none"> <li>• to develop treatment tactics;</li> <li>• to establish treatment priorities in cases of acute abdominal pathology;</li> <li>• to plan specific manipulations and interventions that meet the patient's needs.</li> </ul>	Therapeutical algorithms in acute abdominal pathologies and emergency conditions. Preoperative preparation criteria. Objectives of emergency surgical treatment. Objectives of elective surgical treatment.
<b>Topic 12.</b> Surgical patient treatment process: daily clinical and paraclinical monitoring of the surgical patient in the pre- and postoperative periods (care of wounds, drains, probes, etc.)	
<ul style="list-style-type: none"> <li>• to conduct clinical and paraclinical monitoring of the surgical patient according to the procedures performed;</li> <li>• to provide post-operative care to patients (dressings, care of drains, probes, stomas, etc.);</li> <li>• to prescribe the treatment chart;</li> <li>• to draft the medical documentation.</li> </ul>	Pre- and post-operative period. Provision of care and the establishment of the nurse-patient relationship Patient reactions during care (anxiety, stress, pain, loneliness, helplessness, etc.), which must be brought to the attention of the attending doctor.
<b>Topic 13.</b> Surgical patient treatment process: evaluation of care (treatment outcomes)	
<ul style="list-style-type: none"> <li>• to assess the patient's progress in relation to applied interventions;</li> <li>• to evaluate the whole process for any changes in the patient's state (interventions, complications, etc.).</li> </ul>	Analysis of the outcomes. Assessment of the patient in relation to interventions during the treatment process. Patient's satisfaction with the outcome.
<b>Topic 14.</b> Surgical patient treatment process: discharge and formulation of the observation sheet, of the inpatient record with recommendations for the family doctor and outpatient consultants, prophylaxis of postoperative complication	
<ul style="list-style-type: none"> <li>• to learn how to draft the medical documentation (clinical observation form, discharge form);</li> <li>• to put down recommendations upon patient's discharge;</li> <li>• to include measures for the prevention of early</li> </ul>	Systematic plan of the clinical observation form. Surgical patient discharge form: components, recommendations to the patient, family doctor, outpatient surgeon. Prevention of early and late postoperative complications. Integration of the patient into social and working activities.



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Objectives	Units of content
and late postoperative complications in the discharge form.	
<b>Topic 15. Work in the emergency department</b>	
<ul style="list-style-type: none"> <li>• to understand the specifics of the surgeon's work in emergency department;</li> <li>• to learn about the appropriate medical documentation from the emergency department;</li> <li>• to perform patients' triage in the event of mass hospitalisation;</li> <li>• to define priorities while delivering medical and surgical care in emergencies.</li> <li>• to draw up the plan for the patient's examination in the emergency department.</li> </ul>	<p>During the internship the student is obliged to carry out 4 shifts in the Emergency Department.</p> <p>Emergency Department – structure, specifics of the activity.</p> <p>Medical documentation in the emergency department.</p> <p>Triage of surgical patients in emergency.</p> <p>Priorities in the provision of medical care in emergency.</p> <p>Algorithms for examination of surgical patients according to vital parameters.</p>
<b>Topic 16. Activity in the treatment room (dressings, manipulations while providing care to the patients in the ward, etc.)</b>	
<ul style="list-style-type: none"> <li>• to learn the specifics of work in the treatment room of the surgical department;</li> <li>• to apply dressing to patients undergoing surgery</li> <li>• to conduct invasive manipulations (pleural punctures, punctures of soft tissue collections, wound suturing, permeabilization and removal of drains, etc.) under the guidance of the internship coordinator or department doctors.</li> </ul>	<p>Treatment room: specifics of the activity, compliance with the ventilation and cleaning regime.</p> <p>Care of surgical patients.</p> <p>Asepsis and antisepsis. Pre-surgical hand preparation.</p>
<b>Topic 17. Activity in the operating theatre.</b>	
<ul style="list-style-type: none"> <li>• to master the methods of hands and operating area preparation;</li> </ul>	<p>Operating theatre: structure, specifics of the activity in the operating theatre.</p> <p>Methods of hand and operating area preparation.</p>



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Objectives	Units of content
<ul style="list-style-type: none"> <li>• to learn the role of surgical assistant;</li> <li>• to learn the role and function of the scrub nurse during a surgery;</li> <li>• to know the medical instruments;</li> <li>• to know the necessary materials used in the operating theatre.</li> </ul>	Functions of the nurse and the scrub nurse. Instruments, threads, bandages, etc.
<b>Topic 18.</b> Activity in the post-anaesthesia care unit.	
<ul style="list-style-type: none"> <li>• to learn how to follow-up the patient after surgery;</li> <li>• to record and monitor vital signs (pulse, BP, RR, urine output, level of consciousness);</li> <li>• to monitor oxygen saturation (pulse oximetry);</li> <li>• to administer postoperative medication;</li> <li>• to monitor the nature and volume of discharges from catheters, postoperative drains, etc.</li> </ul>	Post-anaesthesia room: specifics of the activity. Early postoperative period, risk of postanaesthetic and early postoperative complications. Vital parameters (pulse, BP, RR, urine output, level of consciousness). Pulse oximetry. Risk factors in the early postoperative period.

**VIII. PROFESSIONAL SPECIFIC AND CROSS-CUTTING COMPETENCES (SC/CC) AND LEARNING OUTCOMES**

✓ **Professional competences (PC)**

**PC1.** Responsible implementation of professional tasks by applying the values and norms of professional ethics, as well as the provisions of the legislation in force.

**PC2.** Adequate knowledge of the sciences on the organisation and structure of the human body, on physiological functions and behaviour of the human body in various physiological and pathological states, and on the relation between health, and physical and social environment.

**PC3.** Handling clinical cases by developing diagnostic, treatment and rehabilitation plans in various pathological situations and selecting the appropriate therapeutic procedures, including the provision of emergency care.

**PC4.** Promotion of a healthy lifestyle, use of preventive and self-care measures.

**PC5.** Interdisciplinary integration of the physician's work into the team by efficiently using all available resources.



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*PC7.* Fostering the prestige of the medical profession and improvement of professional standards.

*PC8.* Implementation of pedagogical and methodical-didactic activity in higher and vocational medical education institutions.

### IX. CROSS-CUTTING COMPETENCES (CC)

*CC1.* Autonomy and responsibility while conducting an activity.

*CC3.* Interaction skills and social responsibility.

*CC4.* Personal and professional development.

#### Learning outcomes

- to know the principles of general semiology, phases of the diagnostic process, evaluation of symptoms and syndromes in a patient with a surgical condition;
- to learn the theoretical and practical bases of asepsis and antisepsis in the prevention of perioperative contamination and treatment of inflammatory processes;
- to identify the hemodynamic parameters and evaluate the results of imaging, endoscopic investigations and laboratory tests in a surgical patient;
- to know the general and local symptoms of external and internal bleeding (intraluminal, intracavitary and intratissue);
- to be able to recognise the symptoms and apply therapeutical measures in case of blood transfusion complications and reactions;
- to know the local and general clinical manifestations of common inflammatory soft tissue disorders;
- to be able to determine the basic clinical signs in cranial, chest and abdominal injuries;
- to know the specific clinical signs and symptoms of surgical affections of the mammary gland;
- to be able to determine the basic clinical signs of conditions relating to acute abdomen;
- to be able to determine by examination, auscultation and palpation whether peripheral vascular pathology belongs to one of the following syndromes: acute and chronic arterial insufficiency, chronic venous insufficiency, acute thrombosis of superficial and deep veins, lymphostasis;
- to be able, based on the knowledge and skills acquired, to explain the nature of physiological and pathological processes in surgery;
- to apply the acquired knowledge in the future practice; to know the etiological and pathogenetic peculiarities of abdominal and thoracic diseases and traumas;
- to understand the principles of development of various abdominal pathologies;
- to know the principles of development and model the basic pathological processes: the aetiology, risk factors, pathogenesis and clinical picture of surgical diseases;
- to understand the basic processes that lead to surgical diseases complications;
- to know the basis and practical role of clinical, laboratory and instrumental diagnostic methods;
- to be competent to use surgical knowledge and methodology in order to explain the nature of physiological or pathological processes;
- to be able to evaluate the place and role of surgery in the clinical training of the medical student;
- to be able to deduce the potential causes of abdominal and thoracic diseases development;
- to be able to use critically and confidently the obtained information, by using new ICT.





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### X. METHODOLOGICAL SUGGESTIONS FOR TEACHING-LEARNING-ASSESSMENT

- *Teaching and learning methods*

Observation, assistance, and performance are some of the teaching methods that can be applied during the practical internship. The responsible attitude, proactive activity and initiative are at the core of the internship.

- *Teaching strategies/technologies (subject specific)*

During the practical internship, emphasis will be put on the student's individual work performed under the supervision of the inpatient surgical staff (head of department, attending doctors), as well as of the resident doctors or fifth and sixth-year students, who concomitantly carry out their internship and can provide tutorship.

Each student will draft an individual working plan in their practicum diary that has to be implemented during the clinical internship, as laid down in this curriculum, but also based on student's individual needs.

Therefore, the focus is on:

- *relevant* teaching strategies based on real clinical cases from the professional work;
- *inductive* strategies – students solve problems, make decisions based on concrete cases/problems;
- *active* strategies – students learn through action, engagement;
- *collaborative* strategies – team-based and cooperative activities;
- *interactive* strategies – guided discussions and debates within the surgical team;
- *critical* strategies – students are encouraged to express their views, to reason their own opinion.

*Assessment methods (including how the final grade is calculated)*

#### **Routine evaluation:**

*Peer discussion, active supervision, systematic assessment of the internship agenda.*

#### **Final evaluation:**

Examination to assess the practical skills at CUSIM, by using the OSCE model. The student will be assessed at five stations according to the list of practical skills foreseen in the curriculum:

1. Dressings and sutures (according to the list of practical skills);
2. Manipulation (according to the practical skills list);
3. Imaging and Endoscopy (Identification of the type of investigation, interpretation of imaging data on a radiological; CT, USG or endoscopic image);
4. Laboratory (Identification of type of investigation, interpretation of laboratory investigation data – blood types, body fluids general and biochemistry tests);
5. Standardised patient (clinical examination and communication).



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Each station will be scored as follows:

- 0 points – in case of an incorrect performance;
- 1 – partially correct/incomplete performance;
- 2 – correct, complete performance.

The final grade will consist of the cumulative sum of all evaluation stages.

### Means to round the grades during the evaluation stages

The grid of intermediary grades (annual grade, exams marks)	National grading system	ECTS equivalent
<b>1.00-3.00</b>	<b>2</b>	<b>F</b>
<b>3.01-4.99</b>	<b>4</b>	<b>FX</b>
<b>5.00</b>	<b>5</b>	<b>E</b>
<b>5.01-5.50</b>	<b>5.5</b>	
<b>5.51-6.0</b>	<b>6</b>	
<b>6.01-6.50</b>	<b>6.5</b>	<b>D</b>
<b>6.51-7.00</b>	<b>7</b>	
<b>7.01-7.50</b>	<b>7.5</b>	<b>C</b>
<b>7.51-8.00</b>	<b>8</b>	
<b>8.01-8.50</b>	<b>8.5</b>	
<b>8.51-8.00</b>	<b>9</b>	<b>B</b>
<b>9.01-9.50</b>	<b>9.5</b>	
<b>9.51-10.0</b>	<b>10</b>	<b>A</b>

The annual average grade and the marks for all stages of the final examination (annual grade, and marks for the practical skills and tests) shall be expressed in numbers according to the grading scale (see the aforementioned table) and the final grade obtained will be expressed in numbers with two decimal places, which will be entered in the mark book.

Missing the exams without valid reasons should count as ‘absence’ and the mark the student will get is zero. The student is entitled to two repeated examinations if they fail the same exam twice.

## XI. RECOMMENDED BIBLIOGRAPHY

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***B. Additional (accessible):***

10. Mironiuc A., Semiologie și patologie chirurgicală. Cluj-Napoca: Iuliu Hațieganu; 2011. 260 p.

11. Spânu A., Chirurgie generală și semiologie chirurgicală. Chișinău: CEP Medicina; 2008. 590 p.

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14. Angelescu N., editor. Tratat de Patologie Chirurgicală. București: Ed. Medicală, 2001.

15. Maloman, E., Chirurgia abdominală de urgență. Recomandări practice de diagnostic și tratament. Chișinău, 2008, 341 p.

16. Петровский Б.В., Хирургические болезни. Москва, 1980.

17. Кузин М.И., Костюченко Б.М., Раны и раневая инфекция. Москва, 1990.

\* - disponibil online